
 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: LAX07LA122		Aircraft Registration Number: N706X	
		Occurrence Date: 04/08/2007		Most Critical Injury: Fatal	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place So Lake Tahoe		State CA	Zip Code 96150	Local Time 1645	Time Zone PDT
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility:			
Aircraft Information Summary					
Aircraft Manufacturer Scottish Aviation		Model/Series Bulldog 120		Type of Aircraft Airplane	
Revenue Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
<p>Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:</p> <p>On April 8, 2007, about 1645 Pacific daylight time, a Scottish American Bulldog 120, N706X, collided with a tree near South Lake Tahoe, California. The pilot/owner was operating the airplane under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The private pilot was killed, and one passenger sustained serious injuries. The airplane sustained substantial damage to the wings and fuselage. The cross-country personal flight departed South Lake Tahoe about 1630 with a planned destination of Palo Alto, California. Visual meteorological conditions prevailed, and no flight plan had been filed.</p> <p>Local authorities received reports of an emergency locator transmitter (ELT) signal. They began a search, and discovered the wreckage of the inverted airplane. They observed footprints in the snow leading away from the wreckage, and found a female survivor about 1 mile away.</p> <p>The Federal Aviation Administration accident coordinator interviewed the survivor. She stated that they departed runway 18 at South Lake Tahoe airport (TVL) under visual flight rules to Palo Alto (PAO). Prior to departure, the pilot had the airplane fueled to capacity, 32 imperial gallons (38.4 us gallons). The pilot intended to follow highway 50 through the mountains; however, he experienced difficulty in climbing from Lake Tahoe. He elected to circle over Meyers, California, to gain sufficient altitude to pass over Echo Summit. During the circling climb, the pilot flew south of Meyers into even higher mountainous terrain. The passenger stated that the airplane was unable to climb or maintain altitude, and struck a tree with the right wing. The airplane came to rest inverted in a pasture.</p> <p>The retriever cut all empennage control cables aft of the cabin during retrieval. The airplane had nosed over, the cabin had buckled, and the lower half of the fuselage separated at this point. All control cables were connected to their respective control surfaces. The elevators remained attached to the horizontal stabilizers; the rudder remained attached to the vertical stabilizer. The rudder and vertical stabilizer exhibited downward crush, and buckled at their midpoint.</p> <p>Investigators from the National Transportation Safety Board and Textron Lycoming examined the wreckage at Plain Parts, Sacramento, California, on July 23, 2007.</p> <p>Investigators removed the engine. They slung it from a hoist, and removed the top spark plugs. All spark plugs exhibited no mechanical deformation. The spark plug electrodes were oval. Spark plug numbers one, two, and three were oily. All electrodes were gray, which corresponded to normal operation according to the Champion Aviation Check-A-Plug AV-27 Chart.</p> <p>A borescope inspection revealed no mechanical deformation on the valves, cylinder walls, or internal cylinder head.</p> <p>The oil sump screen was clean.</p>					
FACTUAL REPORT - AVIATION					

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Narrative (Continued)

Investigators manually rotated the crankshaft with the propeller. The crankshaft rotated freely, and the valves moved approximately the same amount of lift in firing order. The gears in the accessory case turned freely, and the fuel pump plunger moved up and down. Investigators obtained thumb compression on all cylinders in firing order. The timing was at 20 degrees before top dead cylinder of the number one cylinder.

Investigators manually rotated the magnetos, and both magnetos produced spark at all posts.


The rubber diaphragm in the fuel distribution valve was unbroken, and investigators did not observe any contamination. The fuel nozzles were open. Investigators removed the fuel pump, and drained a clear blue fluid that smelled like aviation gasoline. They manually manipulated its operating arm, and it moved freely. They disassembled the pump, and the diaphragm was unremarkable.


The fuel selector valve was in the main position.


The right wing separated from the aileron outboard. The spar bent aft at the fracture surface, which was angular and irregular. The retriever cut the control cables. About 2 feet inboard of the wing tip, the leading edge had an 18-inch semicircular crush depression that went aft about 18 inches. The left wing separated at the front attachment point bolthole; the fitting bent aft, and the outboard section sheared along an angular plane. The retriever cut the wings off. Investigators moved the cut aileron and elevator control cables, and the control stick and control surfaces moved in the corresponding direction.

Both propeller blades bent aft about 20 degrees at midspan, and twisted toward the low pitch, high revolution per minute (rpm) position.

The FAA Forensic Toxicology Research Team, Oklahoma City, Oklahoma, performed toxicological testing of specimens of the pilot. Analysis of the specimens contained no findings for carbon monoxide, cyanide, volatiles, and tested drugs.

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Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation Ft. MSL	Runway Used NA	Runway Length	Runway Width
Runway Surface Type:					
Runway Surface Condition:					
Approach/Arrival Flown: NONE					
VFR Approach/Landing: None					
Aircraft Information					
Aircraft Manufacturer Scottish Aviation		Model/Series Bulldog 120		Serial Number BH 120/355	
Airworthiness Certificate(s): Experimental (Special)					
Landing Gear Type: Tricycle					
Amateur Built Acft? No	Number of Seats: 2	Certified Max Gross Wt. LBS		Number of Engines: 1	
Engine Type: Reciprocating	Engine Manufacturer: Lycoming	Model/Series: IO-360-A1B6D		Rated Power: 200 HP	
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection Hours		Airframe Total Time 8400 Hours	
- Emergency Locator Transmitter (ELT) Information					
ELT Installed?/Type Yes /		ELT Operated? Yes		ELT Aided in Locating Accident Site? Yes	
Owner/Operator Information					
Registered Aircraft Owner Arnon Matityahu		Street Address			
		City Half Moon Bay	State CA	Zip Code 94019	
Operator of Aircraft Arnon Matityahu		Street Address			
		City Half Moon Bay	State CA	Zip Code 94019	
Operator Does Business As:			Operator Designator Code:		
- Type of U.S. Certificate(s) Held: None					
Air Carrier Operating Certificate(s):					
Operating Certificate:			Operator Certificate:		
Regulation Flight Conducted Under: Part 91: General Aviation					
Type of Flight Operation Conducted: Personal					
<div>FACTUAL REPORT - AVIATION</div> <div>Page 2</div>					

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First Pilot Information																																																																																															
Name		City		State	Date of Birth	Age																																																																																									
On File		On File		On File	On File	49																																																																																									
Sex: M	Seat Occupied: Left	Occupational Pilot?			Certificate Number: On File																																																																																										
Certificate(s): Private																																																																																															
Airplane Rating(s): Multi-engine Land; Single-engine Land																																																																																															
Rotorcraft/Glider/LTA: None																																																																																															
Instrument Rating(s): None																																																																																															
Instructor Rating(s): None																																																																																															
Current Biennial Flight Review? 01/2006																																																																																															
Medical Cert.: Class 3		Medical Cert. Status:			Date of Last Medical Exam: 01/2006																																																																																										
<table border="1"> <thead> <tr> <th rowspan="2">- Flight Time Matrix</th> <th rowspan="2">All A/C</th> <th rowspan="2">This Make and Model</th> <th rowspan="2">Airplane Single Engine</th> <th rowspan="2">Airplane Multi-Engine</th> <th rowspan="2">Night</th> <th colspan="2">Instrument</th> <th rowspan="2">Rotorcraft</th> <th rowspan="2">Glider</th> <th rowspan="2">Lighter Than Air</th> </tr> <tr> <th>Actual</th> <th>Simulated</th> </tr> </thead> <tbody> <tr> <td>Total Time</td> <td>379</td> <td>7</td> <td>341</td> <td>237</td> <td>49</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Pilot In Command(PIC)</td> <td>248</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Instructor</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Instruction Received</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 90 Days</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 30 Days</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 24 Hours</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air	Actual	Simulated	Total Time	379	7	341	237	49						Pilot In Command(PIC)	248										Instructor											Instruction Received											Last 90 Days	0										Last 30 Days	0										Last 24 Hours	0									
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Seatbelt Used? Yes		Shoulder Harness Used? Unknown		Toxicology Performed? Yes		Second Pilot? No																																																																																									
Flight Plan/Itinerary																																																																																															
Type of Flight Plan Filed: None																																																																																															
Departure Point		State	Airport Identifier	Departure Time	Time Zone																																																																																										
Same as Accident/Incident Location			TVL	1630	PDT																																																																																										
Destination		State	Airport Identifier																																																																																												
Palo Alto		CA	PAO																																																																																												
Type of Clearance: None																																																																																															
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Weather Information																																																																																															
Source of Wx Information:																																																																																															


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Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
TVL	1553	PDT	Ft. MSL	NM	Deg. Mag.
Sky/Lowest Cloud Condition: Scattered			5500 Ft. AGL		Condition of Light: Day
Lowest Ceiling: None			Ft. AGL	Visibility: 10 SM	Altimeter: 29.93 "Hg
Temperature: 13 °C		Dew Point: 1 °C	Weather Conditions at Accident Site: Visual Conditions		
Wind Direction: 190		Wind Speed: 16		Wind Gusts: 22	
Visibility (RVR): Ft.		Visibility (RVV) SM			
Precip and/or Obscuration: No Obscuration; No Precipitation					

Accident Information					
Aircraft Damage: Substantial		Aircraft Fire: None		Aircraft Explosion: None	

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL	
First Pilot	1				1	
Second Pilot						
Student Pilot						
Flight Instructor						
Check Pilot						
Flight Engineer						
Cabin Attendants						
Other Crew						
Passengers		1			1	
- TOTAL ABOARD -	1	1			2	
Other Ground						
- GRAND TOTAL -	1	1			2	

FACTUAL REPORT - AVIATION		Page 4
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Administrative Information		
<p>Investigator-In-Charge (IIC)</p> <p>Howard Plagens</p>		
<p>Additional Persons Participating in This Accident/Incident Investigation:</p> <p>Don Morgan Federal Aviation Administration Reno, NV</p> <p>Mark Platt Textron Lycoming Williamsport, PA</p>		
<p>FACTUAL REPORT - AVIATION</p> <p>Page 5</p>		